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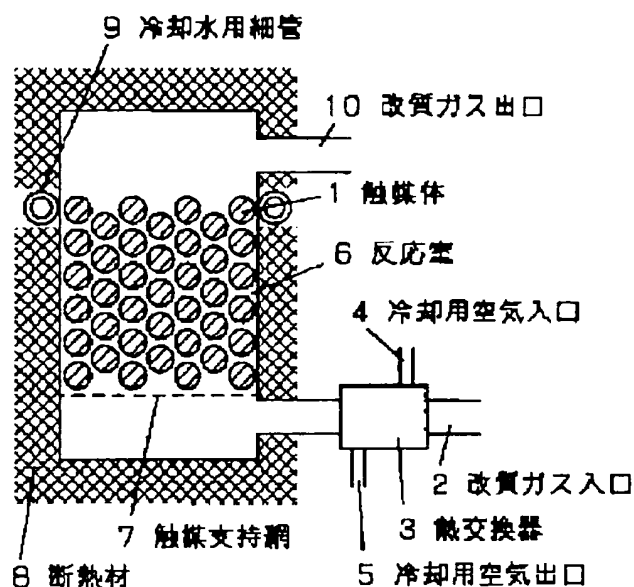
APPLICATION DATE : 09-10-98
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TITLE : HYDROGEN PURIFYING APPARATUS



ABSTRACT : PROBLEM TO BE SOLVED: To provide a hydrogen purifying apparatus having high performances even in a reforming part of small volume, controlling the influence of oxygen admixture caused by repetition of suspension and operation and being stably operated for a long period of time by making the apparatus have a reforming gas supply part, a reaction chamber provided with a catalyst body on the downstream side of the reforming gas supply part and a cooling means for cooling the downstream part of the catalyst body.

SOLUTION: A reforming gas containing at least hydrogen, carbon monoxide and steam is introduced from a reforming gas inlet 2, cooled by a heat exchanger 3 and supplied to a reaction chamber 6. A reforming gas causes a reforming reaction in the reaction chamber 6 equipped with a catalyst body 1 to remove carbon monoxide. In order to efficiently carry out the reforming reaction, preferably the upper stream part of the catalyst body 1 is controlled at a high temperature and the downstream part at a low temperature. Consequently a cooling means by a thin tube 9 for cooling water is installed at the downstream part to control the downstream part at a low temperature. When the catalyst body 1 obtained by supporting a catalytic component on a carrier substrate of a honeycomb structure or a foam structure having open cells is used except in a pellet shape, the contact area is increased and a reactor can be reduced.

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